

Title (en)

Wavelength routing and switching mechanism for a photonic transport network

Title (de)

Wellenlängen Leitweglenkung und Vermittlungsmechanismus für ein optisches Transportnetzwerk

Title (fr)

Routage par routeur d'onde et mécanisme de commutation pour un réseau de transport photonique

Publication

**EP 1303160 A2 20030416 (EN)**

Application

**EP 02011669 A 20020531**

Priority

US 90926501 A 20010719

Abstract (en)

A connection between a source node and a destination node is automatically routed and switched in a WDM photonic network 1, on receipt of a connection request. A switching and routing mechanism selects a plurality of valid link paths using a path tree, where invalid branches are eliminated based on constraints received with the connection request, and on a link and path cost functions. A regenerator placement tree 25 is used for determining a plurality of viable regenerator paths for each valid link path. On the regenerator placement tree 25, non-viable branches are eliminated based on constraints received with the request and on regenerator availability at the intermediate nodes along the respective path. Next, the switching and routing mechanism assigns a set of wavelengths to each viable regenerator path, and estimates the performance of the path using a Q calculator 39. The regenerator paths are ordered according to their performance and the switching and routing mechanism 30 attempts to setup a path to serve the request.

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IPC 8 full level

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Cited by

EP2702714A4; CN102316390A; EP2562950A4; DE10333805A1; DE10333805B4; EP1639757A4; EP2439887A4; EP1580913A3; EP3300269A1; US8369707B2; WO2011153881A1; WO2008077420A1; US6996342B2; US10880034B2; WO03009509A3; WO2018055042A1

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